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| **Unit Title:** Measurement and Data | **Pacing (Duration of Unit):** 4 Weeks |

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| **Desired Results** |

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| **Transfer Goals (**Priority practice standards in **bold)** |
| *Students will be able to independently use their learning to:*   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. **Use appropriate tools strategically.** 6. **Attend to precision.** 7. **Look for and make use of structure.** 8. Look for and express regularity in repeated reasoning. |

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| **Established Goals (2011 MA Curriculum Frameworks Standards Incorporating the Common Core State Standards)** |

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| **Prerequisite Standards:**   * 4.MD.1: Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs* (*1, 12*)*,* (*2, 24*)*,*(*3, 36*)*, …* * 4.MD.4: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.* | **WIDA for English Language Learners**  Standard 1: ELLs **communicate** for **Social** and **Instructional** purposes within the school setting  Standard 3: ELLs **communicate** information, ideas and concepts necessary for academic success in the content area of **Mathematics** |
| **Standards** (Priority Standards in **bold**):   * **5.MD.1: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems.** * **5.MD.2: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*** * 5.NS.MA.1: Use positive and negative integers to describe quantities such as temperature above/below zero, elevation above/below sea level, or credit/debit. | In the lesson planning stage, teachers will need to differentiate lessons for ELLs. In order to accomplish this they will need: 1.) this curriculum map, 2.) a list of their ELLs and their proficiency levels, and 3.) appropriate language function expectations and scaffolds or supports. |

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| **Meaning (\*Mostly assessed through Performance Tasks/Assessments)** |

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| **Big Ideas:** (Statements and concepts written in teacher friendly language which reflect the important [but not obvious] generalizations we want students to be able to arrive at. These are used by the teacher to focus daily instruction.)   * Measurements in the Metric System are converted using a base ten system. * Whole number and fractional data can be represented with/on a line plot | **Essential Questions:** (Questions which frame ongoing and important inquires about the big ideas. They are written for students and used in daily instruction to help engage students in meaningful thinking.)   * How does *what* we measure influence *how* we measure? * Why do we measure? * Why do we need standard units of measurement? * How does the type of data influence how it is displayed? |

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| **Acquisition (\*Mostly assessed through traditional summative assessments)** | |
| **Knowledge:** Key basic concepts, facts, and key terms (written in phrases) students should be able to recall independently.  ***Students will know…***   * Positive and negative numbers can be used to describe contextual situations involving money, temperature, elevation * That the metric system and the English system are two systems of measurement used in the world today * The data on a line plot represents information from real-life scenarios   **Key Academic Vocabulary:**   * Millimeter (mm), Centimeters (cm), Decimeter (dm), Meter (m), Kilometer (km) * Inches (in), Feet (ft), Yards (yd), Mile (mi) * Milliliter (mL), Centiliter (cL), Liter (L), * Fluid ounces (oz), Cups (c), Pint (pt.), Quart (qt), Gallon (g) * Milligrams (mg), Grams (g), Kilograms (kg) * Ounces (oz), Pounds (lb), Tons (T) * Metric System, Imperial/Customary/English/Standard System * Positive integer, Negative Integer * Line plot * Data set * Convert | **Skills:** The discrete skills and process students should be able to use independently  *Students will be skilled at:*   * Converting different measurements within a system * Creating a line plot to display a data set (whole numbers and fractions) * Interpreting and manipulating data (including fractions) in a line plot to solve problems |

**Resource Suggestions:**

Introductory Information and examples for Standard Units of Measurement<http://www.mathsisfun.com/measure/us-standard-units-introduction.html>

**Interactive Games** [**http://interactivesites.weebly.com/math.html**](http://interactivesites.weebly.com/math.html) *(Click on unit topic)*

**Common Core Georgia Performance Standards:** Line Plots & Measurement

**Illustrative math** <http://www.illustrativemathematics.org/5>

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| [**Standard(s)**](http://www.illustrativemathematics.org/5) | [**Link**](http://www.k-5mathteachingresources.com/5th-grade-number-activities.html) |
| [5.MD.1](http://www.illustrativemathematics.org/5) | [Converting Fractions of a Unit into a Smaller Unit](http://www.illustrativemathematics.org/illustrations/293) |
| [5.MD.1](http://www.illustrativemathematics.org/5) | [Minutes and Days](http://www.illustrativemathematics.org/illustrations/878) |
| [5.MD.2](http://www.illustrativemathematics.org/5) | [Fractions on a Line Plot](http://www.illustrativemathematics.org/5) |

**K-5 Math Resources** <http://www.k-5mathteachingresources.com/5th-grade-number-activities.html>

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| **Standard(s)** | **Link** |
| 5.MD.1 | [Comparing Units of Metric Linear Measure](http://www.k-5mathteachingresources.com/support-files/comparingunitsofmetriclinearmeasure.pdf) |
| 5.MD.1 | [Metric Conversion Word Problems](http://www.k-5mathteachingresources.com/support-files/measurementwordproblemsmetric.pdf) |
| 5.MD.2 | [Fractions on a Line Plot](http://www.k-5mathteachingresources.com/support-files/fractionsonalineplot.pdf) |
| 5.MD.2 | [Sacks of Flour](http://www.k-5mathteachingresources.com/support-files/sacksofflour.pdf) |

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| **Standard(s)** | **Link** |
| 5.MD.1 | <http://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-unit-conversion>  [Video: Brain Pop - Metric Units](http://www.brainpop.com/science/scientificinquiry/metricunits/preview.weml)  [Online Game: Find the Equivalent Metric Measures](http://www.hbschool.com/activity/con_math/g05c14.html)  <http://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-unit-word-problems> |
| [5.MD.](http://www.illustrativemathematics.org/5)2 | [Gizmo: Line Plots](http://www.explorelearning.com/index.cfm?method=cResource.dspDetail&ResourceID=225)  <http://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-data> |

**GO MATH PROGRAM**

**STANDARDS: 5MD1; 5MD2;** 5NS(MA)1

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| **STANDARDS** | **LESSON #** | **TITLE** |
| **5MD2\*** | **9.1** | **Line Plots** |
| **5MD1** | **10.1** | **Customary Length** |
| **5MD1** | **10.2** | **Customary Capacity** |
| **5MD1** | **10.3** | **Weight** |
| **5MD1** | **10.4** | **Multistep Measurement Problems** |
| **5MD1** | **10.5** | **Metric Measures** |
| **5MD1** | **10.6** | **Problem Solving - Customary & Metric Conversions** |
| **5MD1** | **10.7** | **Elapsed Time** |

**\*lesson 9.1 is the only Go Math lesson that addresses priority standard 5MD2**

**\*\*5NS(MA)1 is not addressed in the Go Math program**

**\*\*Use positive and negative integers to describe quantities such as temperature above/below zero, elevation above/below sea level, or credit/debit**